

09/817,880

MS167381.01/MSFTP197US

REMARKS

Claims 1-33 are currently pending in the subject application and are presently under consideration. Claims 1, 20, 28, 30, 32 and 33 have been amended as shown at pages 2-7 of the Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

**I. Rejection of Claims 1-18 and 33 Under 35 U.S.C. §101**

Claims 1-19 and 30-33 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. The Federal Circuit has clearly established in *Eolas Techs., Inc. v. Microsoft Corp.*, 399 F.3d 1325, 1338 (Fed. Cir. 2005) and *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. (Fed.Cir. 1999) that an invention such as that claimed by applicant is statutory.

This court must also decide whether software code made in the United States and exported abroad is a "component of a patented invention" under 271(f)... Section 271(f) refers to "components of a patented invention."... Title 35, section 101, explains that an invention includes "any new and useful process, machine, manufacture or composition of matter."... Without question, *software code alone qualifies as an invention eligible for patenting under these categories*, at least as processes. *Eolas Techs., Inc. v. Microsoft Corp.*, 399 F.3d 1325, 1338 (Fed. Cir. 2005). (Emphasis added).

The Federal Circuit in *Eolas Techs., Inc. v. Microsoft Corp.* clearly established that software code alone is statutory subject matter. Independent claims 1 and 33 recite a *computer implemented system*. A system by itself is statutory subject matter. By the standards set forth in the above decision, a computer implemented system in the form of software, hardware, or the combination of both clearly falls within the categories of statutory subject matter. Independent claim 30 recites a *computer implemented signal transmitted between at least two computer executable processes*. The claim clearly states the signal is implemented on a computer system and transmitted between to computer process. The computer and processes executing on the

09/817,880

MS167381.01/MSFTP197US

computer are statutory subject matter and as such the data in the form of a signal transmitted between the processes on the computer system are statutory. Independent claim 32 has been amended as suggested by the Examiner to recite *a data structure employed to create an executable image* to direct this claim to statutory subject matter.

Furthermore, the subject claims produce a useful, concrete, and tangible result.

Because the claimed process [method] applies the Boolean principle to produce a useful, concrete, tangible result ... on its face the claimed process comfortably falls within the scope of §101. *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. (Fed.Cir. 1999); *See State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed.Cir.1998) (finding a system implementing a financial management structure satisfied §101 because it constituted a practical application of a mathematical algorithm by producing a useful, concrete and tangible result).

As provided above, the legal standard set forth by the Federal Circuit in *AT Corp. v. Excel Communications, Inc* for determining whether a claim is directed towards statutory subject matter is whether a claim can be applied in a practical application to produce a useful, concrete, and tangible result. The subject claims disclose components that create an executable image according to a particular user. This executable image can be executed by the user to perform a useful task to the user. Therefore, the executable image that is produced is a concrete, useful, and tangible result.

In view of at least the foregoing, it is readily apparent that applicant's invention as recited in independent claims 1, 30, 32 and 33 (and associated dependent claims 2-19 and 31) is statutory subject matter and produces a useful, concrete, and tangible result. Withdrawal of this rejection is requested.

### **III. Rejection of Claim 32 Under 35 U.S.C §112**

Claim 32 stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This claim has been amended to address any deficiencies related to this rejection; and withdrawal of this rejection is requested.

09/817,880

MS167381.01/MSFTP197US

**IV. Rejection of Claims 20-22 and 27-29 Under 35 U.S.C §102(e)**

Claims 20-22 and 27-29 stand rejected under 35 U.S.C. §102(e) as being anticipated by Goodwin *et al.* (U.S. 6,158,049). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Goodwin *et al.* does not teach each and every element of applicant's invention as recited in the subject claims.

A single prior art reference anticipates a patent claim only if it expressly or inherently describes each and every limitation set forth in the patent claim. *Trintec Industries, Inc., v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 U.S.P.Q.2D 1597 (Fed. Cir. 2002); *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the ... claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The subject invention relates to creating and loading an appropriate executable image at run time in a virtual execution environment based upon attributes associated with the operating environment and user of the virtual execution environment. For example, the attributes can be related to a specific user that is running applications in the operating environment, thus allowing for the subject invention to create one or more executable images that are optimized for the user's current needs. In particular, independent claim 20 (and similarly independent claim 28) recites *generating runtime feedback associated with the first code image and a particular user to adjust a subsequent code image according to the runtime environment, the feedback includes at least a set of information to create a code image according to the particular user*. The Office Action asserts that the subject claim did not recite that the feedback contained information related to a particular user. Although applicant's representative believes that the claim clearly recited this novel feature as indicated by "the feedback includes at least a set of information to create a code image according to the particular user", the claim has been amended to further emphasize this feature.

Goodwin *et al.* does not teach or suggest the aforementioned novel features of applicant's claimed invention as recited in the subject claims. Rather, Goodwin *et al.* discloses a system whereby code is inserted into an original image as "instrumentation" code and the original image

09/817,880

MS167381.01/MSFTP197US

plus the instrumentation code is run to determine a profile that can later be used to generate an optimized version of the original code. The cited art is concerned with automating the process of optimizing native machine code that is generated from high-level language compilers. Goodwin *et al.* is silent regarding any code image runtime feedback related to a particular user. Therefore, Goodwin *et al.* fails to teach or suggest generating runtime feedback associated with the first code image and a particular user to adjust a subsequent code image according to the runtime environment, the feedback includes at least a set of information to create a code image according to the particular user.

In view of at least the foregoing, applicant's representative respectfully submits that Goodwin *et al.* fails to teach or suggest all limitations of applicant's invention as recited in independent claims 20 and 28 (and claims 21, 22, 27 and 29 that respectfully depend there from), and thus fails to anticipate the subject claimed invention. Accordingly, this rejection should be withdrawn.

**V. Rejection of Claims 1, 2, 5-17, 19, 30 and 31 Under 35 U.S.C §103(a)**

Claims 1, 2, 5-17, 19, 30 and 31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over prior art of record Breslau *et al.* (U.S. 5,761,512) in view of Spyker *et al.* (U.S. 6,571,389), and further in view of Armstrong ("Hotspot: A new breed of virtual machine"). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Breslau *et al.*, Spyker *et al.*, and Armstrong, alone or in combination, do not teach or suggest each and every limitation of applicant's claimed invention.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on

09/817,880

MS167381.01/MSFTP197US

applicant's disclosure. *See In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Independent claim 1 (and similarly independent claim 30) has been amended to recite *a log to store generic code image runtime information relating to the operating environment of the virtual subsystem, the runtime logged information includes at least a set of information related to a particular user to create a native executable according to the particular user, the logged information is employed as feedback to generate the native executable based upon the availability of the specialized image.*

Breslau *et al.*, Spyker *et al.*, and Armstrong fail to teach or suggest the aforementioned novel aspects of applicant's invention as recited in the subject claims. The Office Action asserts that Breslau *et al.* discloses logged information to create a native executable. However, the information disclosed in the cited art is a table that equates affinity values to runtime environments. This is not information that is logged during runtime execution of an executable image. The cited art does not disclose or suggest how this table is populated and specifically is silent regarding logging information during runtime execution of the compiled image as in applicant's claimed invention. Breslau *et al.* is concerned with creating a code files that contains compile switches (affinity values) that will compile particular code classes for each specific operating environment to create an executable image appropriate to the operating environment. The Office Action incorrectly asserts that Spyker *et al.* discloses that a user can control the creation of a runtime image according to a particular user. On the contrary, the cited art does not disclose a user specific executable image. Rather, Spyker *et al.* discloses a system for instantiating an appropriate runtime environment for a particular Java application (or applet). Java applications and applets may rely on a particular version of a Java virtual machine (JVM) to execute. Many times the Java virtual machine on particular operating system or associated with a particular browser may be behind or ahead of the version required to execute the Java application. The cited art addresses this disparity by including a properties file in the Java archive file (JAR) associated with a particular Java application. The properties file identifies the particular JVM and other extensions required to execute the Java application. Using this file, the appropriate environment can be instantiated to execute the Java application. The cited art is silent regarding logging runtime information associated with a particular user or creating an

09/817,880

MS167381.01/MSFTP197US

executable image according to the particular user. The section of Spyker *et al.* cited in the Office Action merely states that when a user attempts to launch an application on a computer, the appropriate environment is instantiated. It does not teach or suggest that information related to the user is logged during execution of the application. Moreover, Armstrong is also silent regarding logging runtime information related to a particular user to create an executable image according to the particular user. Armstrong discloses a Java just-in-time compile to improve execution performance of Java applications. The cited art improves on Java bytecode, by monitoring execution times for methods and compiling those bytecode methods that are running slow into native machine code. No information related to a user is logged. Therefore, Breslau *et al.*, Spyker *et al.*, and Armstrong fail to teach or suggest a log to store generic code image runtime information relating to the operating environment of the virtual subsystem, the runtime logged information includes at least a set of information related to a particular user to create a native executable according to the particular user, the logged information is employed as feedback to generate the native executable based upon the availability of the specialized image as in applicant's claimed invention.

Accordingly, applicant's representative respectfully submits that Breslau *et al.*, Spyker *et al.*, and Armstrong, alone or in combination, fail to teach or suggest all limitations of applicant's invention as recited in independent claims 1 and 30 (and claims 2, 5-17, 19 and 31 that respectfully depend there from), and thus fails to make obvious the claimed invention - this rejection should be withdrawn.

**VI. Rejection of Claims 3 and 4 Under 35 U.S.C §103(a)**

Claims 3 and 4 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Breslau *et al.*, Spyker *et al.*, and Armstrong as applied in the above rejection of claims 1, 2, 5-10, 12-17, 19, 30 and 31, and further in view of Fogarty *et al.* (U.S. 6,721,946). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Fogarty *et al.* does not make up for the aforementioned deficiencies noted above with respect to Breslau *et al.*, Spyker *et al.*, and Armstrong regarding independent claim 1, from which the subject claims depend. The cited reference is related to manufacturing of build to order computers and assessing options configurations that are frequently purchased to produce static installation images. Notably, Fogarty *et al.* fails to teach or suggest a system that contains *a log to store*

09/817,880

MS167381.01/MSFTP197US

*generic code image runtime information relating to the operating environment of the virtual subsystem, the runtime logged information includes at least a set of information related to a particular user to create a native executable according to the particular user, the logged information is employed as feedback to generate the native executable based upon the availability of the specialized image* as recited in claim 1. Therefore, Breslau *et al.*, Spyker *et al.*, Armstrong, and Fogarty *et al.* fail to make obvious the subject claimed invention and it is respectfully submitted that this rejection be withdrawn.

#### **VII. Rejection of Claim 18 Under 35 U.S.C §103(a)**

Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Breslau *et al.*, Spyker *et al.*, and Armstrong as applied in the above rejection of claims 1, 2, 5-10, 12-17, 19, 30 and 31, and further in view of prior art of record Nelin *et al.* (U.S. 6,253,368). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Nelin *et al.* does not make up for the above noted deficiencies with respect to Breslau *et al.*, Spyker *et al.*, and Armstrong regarding amended independent claim 1, from which the subject claim depends. Nelin *et al.* discloses a system related to dynamically debugging internet applications. Nelin *et al.* fails to teach or suggest a system that contains *a log to store generic code image runtime information relating to the operating environment of the virtual subsystem, the runtime logged information includes at least a set of information related to a particular user to create a native executable according to the particular user, the logged information is employed as feedback to generate the native executable based upon the availability of the specialized image* as recited in amended claim 1. Therefore, Breslau *et al.*, Spyker *et al.*, Armstrong, and Nelin *et al.* fail to make obvious the subject claimed invention; and it is respectfully submitted that this rejection should be withdrawn.

#### **VIII. Rejection of Claim 23 Under 35 U.S.C §103(a)**

Claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Goodwin *et al.* as applied in the above rejection of claim 21, further in view of Aho *et al.* ("Compilers: Principles, Techniques, and Tools"). It is respectfully requested that this rejection be withdrawn for at least the following reasons. Aho *et al.* fails to make up for the deficiencies of Goodwin *et al.* as discussed *supra* with regards to the limitations recited in independent claim 20, from which

09/817,880

MS167381.01/MSFTP197US

the subject claims depend. Aho *et al.* describes general principles regarding interpreters, compilers and assembler. The cited art is silent regarding logging runtime information related to a particular user to create an executable image according to the particular user. Therefore, Goodwin *et al.* and Aho *et al.* fail to teach or suggest *generating runtime feedback associated with the first code image and a particular user to adjust a subsequent code image according to the runtime environment, the feedback includes at least a set of information to create a code image according to the particular user.*

**IX. Rejection of Claims 24-26 Under 35 U.S.C §103(a)**

Claims 24-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Goodwin *et al.* and Aho *et al.* as applied to the rejection of claim 23 above, and further in view of Breslau. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. As noted above with respect to claims 1 and 23 respectively, Breslau *et al.* and Aho *et al.* fail to make up for the deficiencies of Goodwin *et al.* as discussed *supra* with regards to the similar limitations recited in independent claim 20, from which the subject claims depend. Therefore, this rejection should be withdrawn.

**X. Rejection of Claim 32 Under 35 U.S.C §103(a)**

Claim 32 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Breslau *et al.* in view of Spyker *et al.* further in view of Nelin *et al.*. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Breslau *et al.*, Spyker *et al.* and Nelin *et al.* are silent regarding *a set of information associated with a particular user that is logged during execution of a virtual system to create an executable image according to the particular user of the virtual system*, for the reasons discussed above with respect to the similar limitations of independent claims, 1, 20, 28 and 30. Accordingly, this rejection should be withdrawn.

**XI. Rejection of Claim 33 Under 35 U.S.C §103(a)**

Claim 33 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Breslau *et al.* in view of Ramezani (U.S. 6,457,122), and further in view of Spyker *et al.*. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Breslau *et*



09/817,880

MS167381.01/MSFTP197US

*al.*, Ramezani, and Spyker *et al.*, alone or in combination, do not teach or suggest each and every limitation of applicant's claimed invention. Ramezani fails to make up for the deficiencies of Breslau *et al.*, and Spyker *et al.* as discussed *supra* with regards to the similar limitations recited in independent claim 1. The cited art discloses a system for installing programs on writeable storage device in a fault tolerable manner. Ramezani is silent regarding *a specialized executable image generated at least in part from the operating environment data, the operating environment data includes at least a set of information to create a specialized executable image according to the particular user.* In view of the foregoing, withdrawal of this rejection is respectfully requested.

#### CONCLUSION

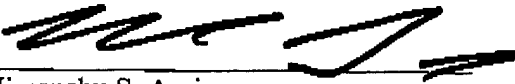
The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP197US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,

AMIN, TUROCY & CALVIN, LLP

  
Himanshu S. Amin  
Reg. No. 40,894

AMIN, TUROCY & CALVIN, LLP  
24<sup>TH</sup> Floor, National City Center  
1900 E. 9<sup>TH</sup> Street  
Cleveland, Ohio 44114  
Telephone (216) 696-8730  
Facsimile (216) 696-8731